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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 14

Application Number: 09/356,505
Filing Date: July 19, 1999
Appellant(s): TAKEO, HIEYA

MAILED

AUG 1 1 2003

Technology Center 2600

Michael J. Whitehead
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 22,2003.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

Claims 1-30 are rejected.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

Apellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claims 1-30 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal:

6,249,614 B1	Kolesnik et al.	06/19/01
6,252,994 B1	Nafarich	06/26/01

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-3, 5-12, 16-18, and 22-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Kolesnik et al. (U.S. patent 6,249,614).

Regarding claims 1, 10, and 16: Kolesnik et al. discloses a data compression method (col. 1 lines 65-67) of obtaining compressed coded data by quantization of original data (col. 2 lines 5-8, fig. 1 block 110) to obtain quantized data followed by coding and compression (fig. 1 block 130 and 150 and col. 4 lines 17-18, 27-31, and 39-41, where the multiplexer compresses the data signal after it is coded) of the quantized data, the data compression method comprising the steps of:

classifying the quantized data into data having a value representing the quantized data (col. 4 lines 1-5 and fig. 1 block 110 element 120 and 125, where the output of element 120 are the quantized coefficient matrix and the quantized reference coefficients. The quantized coefficient matrix is read as "the data having a value representing the quantized data.") and at least one set of classified data representing a data value other than the representative value (col. 4 lines 1-5 and fig. 1 block 110 element 120 and 125, where the output of element 120 are the quantized coefficient matrix and the quantized reference coefficients. The quantized reference coefficients are read as "the data value other than the representative value.") while obtaining classification information data regarding the classification (col. 4 lines 1-5 and fig. 1 block 110 element 120 and 125, where the output of element 120 are the quantized coefficient matrix and the quantized reference coefficients quantized reference coefficients are also

read as the "classification information data" because this is information regarding the quantized coefficient matrix);

coding the classification information data according to a first coding method (col. 4 lines 29-34, col. 10 lines 38-61, fig. 1 block 130, and fig. 12, where the matrices are coded by different coding methods depending on the classification of the matrices as dense, sparse, or zero); and

obtaining the coded data by coding at least the classified data according to a second coding method, out of the classified data and the data having the representative value (col. 4 lines 29-34, col. 10 lines 38-61, fig. 1 block 130, and fig. 12, where the matrices are coding by different coding methods depending on the classification of the matrices);

Regarding claims 2, 11, and 17: wherein the second coding method is different between the data having the representative value and each set of the classified data (col. 4 lines 29-34, col. 10 lines 38-61 and fig. 10 numbers 1005 – 1055, where different coding techniques are used depending on the classification of the matrices and the quantized high and low values are encoded differently).

Regarding claims 3, 12, and 18: wherein the quantized data are obtained by carrying out wavelet transform on the original data followed by quantization thereof (col. 4 lines 49-54 and fig. 1 blocks 105 and 110, where the quantization takes place after the signal has undergone a wavelet transform decomposition).

Regarding claims 5 and 14: A data compression method wherein the data having the representative value are 0 data representing the value 0 of the

quantized data, and the classified data are non-zero data representing a non-zero value of the quantized data (col. 4 lines 27-38, where the zero matrix is taken as the representative value and the sparse and/or dense matrices is taken as the nonzero values of the quantized data).

Regarding claim 6: A data compression method wherein the first coding method is any one of Huffman coding, run length coding, B I coding, B2 coding, Wyle coding, Golomb coding, Golomb-Rice coding, and binary arithmetic coding (col. 13 lines 39-42).

Regarding claim 7: A data compression method wherein the second coding method is any one of Huffman coding, universal coding, and multi-valued arithmetic coding (col. 4 lines 17-38 and col. 13 lines 39-42, where Kolesnick et al. teaches to use different coding methods, such as Huffman coding, to encode data depending on the type of data).

Regarding claim 8: A data compression method wherein the coded data are obtained by coding the classified data according to a third coding method, out of the classification information data and/or the data having the representative value and the classified data, in the case where the amount of the coded data is larger than a predetermined information amount determined based on the original data (col. 4 lines 17-38, col. 11 lines 24-30 and col. 13 lines 39-42, where Kolesnick et al. teaches to use different coding methods, such as Huffman coding, to encode data depending on the type and size of data).

Regarding claim 9: A data compression method as claimed in claim 1, wherein the third coding method is any one of Huffman coding, arithmetic coding, and PCM coding (col. 4 lines 17-38 and col. 13 lines 39-42, where Kolesnick et al. teaches to use different coding methods, such as Huffman coding, to encode data depending on the type of data).

Regarding claim 15: A data compression apparatus comprising:

judging means for judging whether or not the amount of the coded data is larger than a predetermined information amount determined based on the original data (col. 11 lines 24-30, where the size of the information is determined); and

third coding means for obtaining the coded data by coding at least the classified data according to a third compression method, out of the classification information data and/or the data having the representative value and the classified data, in the case where the judging means has judged the amount of the coded data to be larger than the predetermined information amount (col. 4 lines 17-38, col. 11 lines 24-30 and col. 13 lines 39-42, where Kolesnick et al. teaches to use different coding methods, such as Huffman coding, to encode data depending on the type and size of data).

Regarding claims 16-18: As for the limitation of a computer readable recording medium used to perform limitations above (Kolesnik et al.; fig. 14 blocks 1405, 1410, and 1450).

Regarding claim 20: It is rejected for the same reasons as claim 5 and 14 above and as for the following limitation a computer-readable recording medium (Kolesnik et al.; fig. 14 blocks 1405, 1410, and 1450).

Regarding claim 21: It is rejected for the same reasons as claim 8 and 15 above and as for the following limitation a computer-readable recording medium (Kolesnik et al.; fig. 14 blocks 1405, 1410, and 1450).

Regarding claim 22,25,and 28: The data compression method wherein said classification information data comprises a comparatively small information amount (col. 4 lines 17-35, where the information data is classified as dense, sparse, and zero matrices in which the zero matrix has little or no information).

Regarding claim 23, 26, and 29: The data compression method wherein said classification information data comprises 3-valued data (col. 4 lines 17-35, where the information data is classified as dense, sparse, and zero matrices/values).

Regarding claim 24, 27, and 30: The data compression method wherein said classification information data comprises binary data (col. 11 lines 1-3, where the information has a binary representation).

Regarding claims 28-30: A computer-readable medium (Kolesnik et al.; fig. 14 blocks 1405, 1410, and 1450).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4,13, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolesnik et al. (U.S. patent 6,249,614) and Nafarich (U.S. patent 6,252,994).

Regarding claims 4, 13, and 19: wherein the quantized data are obtained by carrying out DCT on the original data followed by quantization thereof.

Kolesnik et al. discloses an image data compression method which initially decomposes an image signal (fig. 1 blocks 105 and 110 and col. 4 lines 49-55) before it is quantized to undergo data compression. Kolesnik et al. further discloses that alternative methods can be used to decompose a signal (Kolesnik et al.; col. 4 lines 64-67). Kolesnik et al. does not disclose to use DCT as one method to decompose the signal before quantization. Nafarich teaches to perform DCT on a image signal before quantization followed by coding and lastly compression (Nafarich; fig. 4 blocks 102, 104F, 408F, 110, and 114). It would have been obvious to one skilled in the art to combine the teaching of Nafrich to that of Kolesnik et al. because they are analogous in data quantization, coding, and compression. On skilled in the art would have been motivated to substitute the DCT decomposition unit of Nafarich for the wavelet transform decomposition

unit of Kolesnik et al. to create longer strings of zero-value coefficients which enables greater data compression (Nafarich; col. 1 lines 62-67).

Regarding claim 19: As for the limitation of a computer readable recording medium used to perform limitations above (Kolesnik et al.; fig. 14 blocks 1405, 1410, and 1450).

(11) Response to Argument:

The appellant alleges that the prior art of Kolesnik et al. does not teach "classifying the quantized data into data having a value representing the quantized data and at least one set of classified data representing a data value other than the representative value while obtaining classification information data regarding the classification" (page 5 of the brief). Examiner disagrees. The prior art of Kolesnick et al. (fig. 1 elements 110, 120, and 125) discloses a wavelet transformed signal being quantized by elements 120 and 125 based on the data correlation. The output of element 120 results in two types of data which are quantized coefficient matrix and quantized reference coefficients, where the quantized coefficent matrix is read as the "quantized representative data" and the "quantized reference coefficients are read as the quantized data other than the representative data" as well as "classification information" since the quantized reference coefficients are information regarding the quantized coefficient matrix. Apellant further states that the quantized data is classified into three types of data (page 5 of the brief):

1.) data having a value representing the quantized data;

2.) classified data representing a data value other than the representative value; and

3.) classification information data regarding the classification.

These limitations are not in the claim language. Apellant claims, in claims 1,10, and 16 that quantized data is classified into data having a value representing the quantized data and at least one set of classified data representing a data value other than the representative value while obtaining classification information data about the classification. Nowhere in the claim language does it state that the quantized data is broken down into three sets of data because it does not claim that the classification information data is obtained from the quantized data.

Apellant further argues that incorrect assumptions about the interoperations of the coefficient matrix and matrix coefficients and that excessive double counting of the elements takes place (page 7 of the brief). Examiner disagrees. Since the three different data above are not defined in the claim language of the instant invention examiner believes that the prior art of Kolesnik et al. reads on the elements of the instant invention. Further in the instant application it does not claim that an element cannot have a dual purpose therefore examiner believes that the quantized reference coefficients can be read as two of the datas as claimed in the instant invention as discussed above.

Apellant further argues that the prior art of Nafarich is not combinable with that of Kolesnik et al. Examiner disagrees. Nafarich and Kolesnik et al. both in the same art of

data compression by decomposing a signal, with different decomposition methods, into components followed by coding and compression.

Resptfully submitted,

AB

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July 31, 2003

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